Work Order ID 86842 Page 1 July-06-12 3:10:33 PM Item ID: D212-664-101 *N900040100* Accept Setup Start **Revision ID:** Crosstube Fwd Item Name: Start Qty: 1.00 7/06/12 **Start Date: Cust Item ID:** Req'd Qty: 1.00 Required Date: 8/10/12 **Customer:** Reference: Run Date: 17-07-9 Tooling: Date: Approvals: Process Plan: Stop Date: SPC (Y/N): QC: Date: Reject Insp. Set Up/ **Tool ID** Tool # Plan Accept Reject Sequence ID/ Operation Number Run Hours Code Qty Oty Stamp Work Center ID Description Draw Nbr **Revision Nbr** Rev D (DEO) D212-664-141 100 0.00DOCUMENT CONTROL 0.00 Memo Photocopy bluefile and create labels as per PPP D212-664-101 CPIGO05 Document Control 0.00 Pick Kit 110 Packaging *110* 0.00 Packaging Memo Packaging

120

120 CNC Bend 2

BENDING MACHINE - CROSSTUBES

Memo

0.00

CNC Alpha 160 Bender

Bend tube as per Dwg D212-664-141 using CNC bender program 212-fw and

Folio D212-664-101

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rospace Lta							
		WORK ORDER	CHANGES				
STEP	PR	OCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Resolution: _		Disposition:	QA: N/C	Closed:		Date: _	
		STEP PR :PAR #:	STEP PROCEDURE CHANGE :PAR #:Fault Category:	STEP PROCEDURE CHANGE By :PAR #:Fault Category:NCR: Ye	WORK ORDER CHANGES STEP PROCEDURE CHANGE By Date	WORK ORDER CHANGES STEP PROCEDURE CHANGE By Date Qty	WORK ORDER CHANGES STEP PROCEDURE CHANGE By Date Qty Chief Eng / Prod Mgr

NCR:		V	WORK ORDER NON-CONFORMANCE (NCR)						
		Description of NC		Corrective A	ction Section B		Verification	Annroyal	Approval
DATE	STEP	Section A	Initial - Chief Eng		Description nief Eng	Sign & Date	Section C	Approval Chief Eng	Approval QC Inspector
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Work Ord <i>July-06-12 3:</i>		6842		*868	342*						Page
Item ID:	D212-664-	101		Accept	*N900	040	100)* s	etup Star	*N	S1*
Revision ID: Item Name:	Crosstube F	wd							Stop		S2*
Start Date:	7/06/12	Start Qty: 1.00	*1*		Cust Item I	D:					
Required Dat	e: 8/10/12	Req'd Qty: 1.00	*1*		Customer:						
Reference:									-		
Approvals:	Process P	lan:	Date:	Tooling:	Da	ite:		R	tun Star	17	R1*
••	QC:			SPC (Y/N):	Da	ate:			Stop	*N	R2*
Sequence ID/ Work Center		Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		QC15- Crosstube Dimer	nsional Check	0.00							
130 QC		Memo		0.00	2/124					4	

140

140 Crosstubes

Quality Control

Crosstubes

Crosstubes

1-Drill pilot holes in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549,using drill table DT8577,set-up towers in hole #7 as per QSI 10

0.00

2-Ream hole to finish size in tube as per Dwg D212-664-141using drill Jig DT8548 & DT8549 Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-141

4-*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-141

Page 2

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W/O:			WO	RK ORDER CHANG	SES					
DATE	STEP	PRO	OCEDURE CHAN	IGE		Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No	•	PAR #:	Fault Categ	Jory:	NCR	: Yes N	lo DQ	A:	Date: _	
	Re	esolution:	Disposition	: '	QA:	N/C Clo	sed:		Date: _	
NCR:			WORK ORDE	R NON-CONFORM	ANCE	(NCR)				
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Work Ord July-06-12 3:10		5842		*868	842*						Page 3
tem ID: Revision ID: Item Name:	D212-664-			Accept	*N900	<u>)</u> 040	100) *	Setup Sta	rt *N	S1* S2*
Start Date: Required Date: Reference:	7/06/12 : 8/10/12	Start Qty: 1.00 Req'd Qty: 1.00	*1* *1*		Cust Item Customer:			÷		-	
Approvals:		lan:	Date:	_ 5 _		Date:		I	Run Sta Sto		R1* R2*
Sequence ID/ Work Center I	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
*150 *150* QC Quality Control		QC5- Inspect part comple Memo *** WEAR		0.00 PAS 0.00 PAS IN HANDLING CROSSTU	1/100/26					2 <u></u>	-
160 *160* HandFXtube Hand Finishing Cro	osstubes		LATEX GLOVES WHE	0.00 0.00 EN HANDLING CROSSTU	BE***			_			W 12 07
170 *170* Outsource2		Outsource process - NDT Memo		0.00 0.00				¥	RI	1-07	27
Outsource process	- NDT	*** WEAR	LATEX GLOVES WHE	EN HANDLING CROSSTU	BE***						

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W/O:			WC	WORK ORDER CHANGES							
DATE	STEP	PRC	OCEDURE CHA	NGE	Ву	Date Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector			
		49									
Part No	:	PAR #:	Fault Cate	gory:N	CR: Yes N	lo DQA:	Date: _				
	R	esolution:	Dispositio	n: ' Q/	A: N/C Clo	sed:	Date: _				
NCR:		1	WORK ORD	ER NON-CONFORMANC	E (NCR)						
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DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector			

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		Description of NC		Corrective Action Section B		Verification	Approval	Approval
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Item ID: Revision ID:	D212-664-10)1		Accept	*N900	040	100	*	Setup	Start	*NS	31*
Item Name:	Crosstube Fwo	i								Stop	*N.	32 *
Start Date:	7/06/12	Start Qty: 1.00	*1*		Cust Item I	D:						
Required Date:	8/10/12	Req'd Qty: 1.00	*1*		Customer:							
Reference:							+		Run	Start	*N15	74 *
Approvals:	Process Pla	n:	Date:	Tooling:	Da	ate:				Stop	IVI	≺ I
	QC:		Date:	_ SPC (Y/N): _	Da	ate:				Stop	*NF	₹2*
Sequence ID/ Work Center II	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	t Rej Qty		Reject Number	Insp. Stamp
180		Receive & Inspect for Da	amage & Mat'l Certs	0.00								///
180		Packaging		0.00						_/	1/2/	7/27
Packaging		Memo	- CNDTlt- ett-ob-od	0.00						L		/
Packaging		Ensure copy	of NDT results attached	to work order.								
190		QC5- Inspect part comp	leteness to step on W/O	0.00								1
190												N/12072
QC		Memo		0.00								
Quality Control		*** WEAR	LATEX GLOVES WHE	N HANDLING CROSSTUBE	***				140			
		Inspect for o	damage & ensure results a	are as per Dwg D212-664-141								
. 193		Crosstubes Chemical Co	onversion	0.00				AA				
193		4						13	_ 1	2 -	7-2	8

0.00 HandFXtube Memo *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Hand Finishing Crosstubes

1- PRESSURE WASH AND THEN USE WASH'N WIPE TO CLEAN CROSSTUBE BEFORE CHEMICAL CONVERSION

Dait Ac	Ospace	Ltu								• *
W/O:			W	ORK ORDER CHA	ANGES					•
DATE	STEP	PRO	CEDURE CH	ANGE		Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC inspector
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Part No	:	PAR #:	Fault Cat	egory:	NCI	R: Yes N	lo DQ	A:	_ Date: _	
	Re	esolution:	Dispositi	on:	QA:	N/C Clo	sed:	-	Date: _	
NCR:		\	WORK OR	DER NON-CONFO	RMANCE	(NCR)	· • • • • • • • • • • • • • • • • • • •			
DATE	STEP Description of NC Section A		Initial	Corrective Action Action Descrip	Section B			cation ion C	Approval Chief Eng	Approval QC Inspector
			Chief Eng	Chief Eng		Date				
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Work Order ID 86842 July-06-12 3:10:33 PM		*86842*							Page 5				
Item ID: Revision ID: Item Name:	D212-664-			Accept	*N900	040	100)*	Setup	Start Stop	1 4	S1* S2*	_
Start Date: Required Date Reference:	7/06/12 e: 8/10/12	Start Qty: 1.00 Req'd Qty: 1.00	*1* *1*		Cust Item I Customer:	D:				4			
Approvals:	Process P QC:	lan:	Date:	Tooling: SPC (Y/N):		ate:			Run	Start Stop	1/1	R1* R2*	
Sequence ID/ Work Center	ID	Operation Description QC7-Inspect Chemical (Conversion Coat	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	t Re Qty	•	Reject Number	Insp. Stamp	
195 QC Quality Control		Memo		0.00 IN HANDLING CROSSTU	BE***				_		Market and the state of the sta	M/ 12	oj z8
200		Spray Painting per QSIO	005 4.2	0.00				40					

200 SprayPaint Spray Painting

Memo

0.00

*** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube as per DEO D212-667-141 with White Imron as per QSI 005 4.2

PRIME: \2\334 Start Time: <u>8:30</u> Fininsh Time: <u>9:15</u>

PAINT: 122381 Start Time: 4:15 Finish Time: 5:00

12-7-28

Dart Ae	rospace	Lta							
W/O:			W	ORK ORDER CHANG	GES				
DATE	STEP	PRO	CEDURE CH	ANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
									
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DATE	STEP	Description of NC		<u>. </u>	ction B	Verific	ation	Approval	Approval
DATE	SIEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section		Chief Eng	QC Inspector
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Work Ord July-06-12 3:1		342		*868	42*				Page 6
Item ID: Revision ID: Item Name: Start Date: Required Date	D212-664-10 Crosstube Fwo 7/06/12 : 8/10/12		*1* *4*		*N90004 Cust Item ID: Customer:	೧ 1೧()* s	etup Start Stop	*NS1* *NS2*
Reference: Approvals:		n:	Date:	Tooling: SPC (Y/N):	Date:		R	Run Start Stop	*NR1* *NR2*
Sequence ID/ Work Center I 210 *210* QC Quality Control	D	Operation Description QC14- Inspect Spray Pair Memo Then, Wrap i	nt n plastic bag to prote	Set Up/ Run Hours 0.00 0.00 ct from scratches	Tool ID Tool	# Plan Code	Accept Qty		Reject Insp. Number Stamp
220 **20* Crosstubes Crosstubes		clean the are 2-Install sup A/R Pros	a with 4105S wash 'r ports with Proseal 89	0.00 0.00 oort and crosstube with 400 grit wipe 0 per DSI9563 and QSI 015	sandpaper,		Af.	12 -	7-29
230 *230* QC		QC6- Inspect dimensions Memo	s to drawing	0.00 0.00	त्रीक्रीक				

Quality Control

W/O:			W	ORK ORDER CHANG	ES				<i>«</i> +
DATE	STEP	PRO	CEDURE CH	ANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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DATE	STEP	Description of NC	4	Corrective Action Section	on B Sign		cation	Approval	Approval
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Picklist Print Page 1 July-06-12 3:10:33 PM 86842 Work Order ID: **Start Date:** 7/06/12 Required Date: 8/10/12 D212-664-101 Parent Item: Required Qty: 1.00 Start Qty: 1.00 Crosstube Fwd Parent Item Name: IPP Rev:E04.02.16ReformatKJ/DS Comments: IPP Rev:F 06-03-29 Remove Coments on Pick List JLM IPP Rev:H 11.04.26 inspection IPP Rev:G 07-04-30 As per Rev C strip ecn 11-549 EC verified by:DD Qty per Kit Total Status Qty Qty on Unit of Last Route **Primary** Bin Component Item ID/ Replacement Mfg/ Issued Issued Measure Hand Location Qty Seq ID !tem ID Purch Item Location Item Name 110 2.0000 No D212-664-101TRN Manufactured Crosstube Turning Detail Loc Code Loc Qty 2 B87878 LG 85829 230 105.0895 4.2105263 Manufactured D3595-063-450 RUBBER CUSHION Loc Code Loc Qty Location 9.28 LG 82511 9.28 85.7 LG051 Work Order ID 86842 July-06-12 3:10:33 PM Page 7 Item ID: D212-664-101 Accept *N900040100* **Revision ID:** Setup Start Item Name: Crosstube Fwd **Start Date:** 7/06/12 Start Qty: 1.00 Cust Item ID: Required Date: 8/10/12 Req'd Qty: 1.00 **Customer:** Reference: **Approvals:** Run Date: Tooling: Start Date: Date: SPC (Y/N): Stop

Date: Sequence ID/ Operation Set Up/ **Work Center ID** Tool ID Tool # Plan Description Accept Reject Insp. **Run Hours** 240 Code Qty Pick Kit Qty Number Stamp 0.00 *740* Packaging Memo 0.00 Packaging

250

QC4-100% Inspect kits for completeness

250

Quality Control

Memo

260

260

Packaging

0.00

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D212-664-101

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W/O:	T	,	<u>V</u>	VORK ORDER CHANG	ES			. •
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DATE	STEP	Description of NC Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector
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NOTE: Date & initial all entries

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July-06-12 3:10:33 PM

Work Order ID:	86842								
Parent Item:	D212-664-101						Start D	ate: 7/06/12	Required Date: 8/10/12
Parent Item Name:	Crosstube Fwd						Start (Qty: 1.00	Required Qty: 1.00
MS21920-25 Clamp(per MIL-DTL-87	83C)	Purchased	No		220	Each	136.0000	4	4 Al 12-7-29
				Location	Loc Qty		Loc Code		
				LG050	117				_
				116264	2				_
				117998	4				_
				118142	4				
				119339	2				_
				119746	2				_
				120475	7				
				120920 122204	46 50			(4)	
									
				LG051	19				_
				121583	19	F 1	16,0000		
D2893-1		Manufactured	No		220	Each	16.0000	2	2 Af 12-7-29
2.75 Support				87922				<u> </u>	4400
				<u>Location</u>	Loc Qty		Loc Code	•	
				LG	9				
				83056	9		•		_
				LG052	7				
				72865	2				
				80271	4				
				82228	1				
D3428-1 Placard		Manufactured	No		240	Each	33.0000	1 12/7/3	150 C
				Location	Loc Qty		Loc Code		
				ST042	33				<u></u>
				78933	2			<i>l</i>	
				81881	9				
				83582	10				_
				85228	12				_



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Resolution:			Disposition	: `	_ QA: N/C C	losed:		Date: _	
NCR:			WORK ORDE	R NON-CONFORM	ANCE (NC	R)			
		Description of NC		Corrective Action Sec	tion B	Verifi	cation	Approval	Approval
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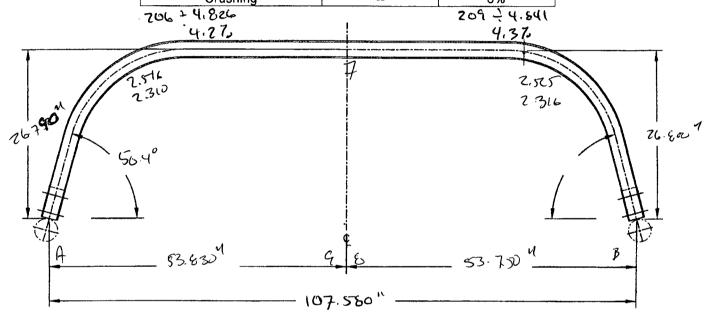
Page 3

Work Order ID: Parent Item: Parent Item Name:	86842 D212-664-101 Crosstube Fwd							Date: 7/06/12 Qty: 1.00	Required Date: Required Qty:	
AN6-35A BOLT		Purchased	No		240	Each	42.0000	4	4	
				Location	Loc Qty		Loc Code		1	
				342	42					
				121181	42					
AN6-36A Bolt		Purchased	No		240	Each	47.0000	4	4	l l
				Location	Loc Qty		Loc Code			
				ST342	47					
				118422	2				<u>.</u>	
				119449	1					
				120187	4					1
				120423	40				— <i>(</i>)	
MS21042L6 Nut		Purchased	No		240	Each	497.0000	6	6 A	6
				Location	Loc Oty		Loc Code		1	
				ST300	497					
				117677	25					
				118384	3					
				118927	48					
				119075	221			k	0	
				120308	200					
AN960JD616 Washer	NAS1149D0663J	Purchased	No		240	Each	0.0000	18	18 M	121708
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DART AEROSPACE LTD	Work Order:	84842
Description: Crosstube High Fwd (205/212/412)	Part Number:	D212-664-101
Inspection Dwg: D212-664-141 Rev: D		Page 1 of 1

Required Dimension	Min	Max
Height	26.79	27.05
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.7
Bending Passes	3	
Crushing		6%



	Side A	Side B
Bending Passes	9 7	8
Crushing	4.2%	4.3%
	Comments	
5100 A = 9	Pases.	
MiDDLe 2 7	082500.	
5 No R 2 90	00-5500	

QC15 Inspection	040
Date	17/03/24

Rev	Date	Change	Revised by	Approved
Α	07.02.06	New Issue	KJ/JM	
В	08.04.21	Dwg Rev updated	KJ/JM	
С	10.04.01	Dwg Rev updated	KJ . N	
D	12.04.16	Added bending, crushing dimensions	KJ PX	W
			10	

W/O:			S						
DATE	STEP	PRO	CEDURE CH	ANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
								:	
Part No		PAR #:	Fault Ca	tegory:	NCR: Yes	No DQ	A:	Date: _	
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DATE	STEP	Description of NC		Corrective Action Section			cation	Approval	Approval
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Item	Qty -141	Qty -141B	Part Number	Description
1	Х		D212-664-141	CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)
2		Х	D212-664-141B	CROSSTUBE ASSEMBLY (214 HIGH FWD)
3	1	1	D6005-128	CROSSTUBE
4	2	2	D2893-1	SUPPORT
5	4	4	D3595-063-450	RUBBER CUSHION
6	4	4	MS21920-25	CLAMP (OR MS21920-26)
7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

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1) MATERIAL: MANUFACTURED FROM D6005-128 FINISHED LENGTH = 126.514±0.020

2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2

PAINT OUTSIDE PER DART QSI 005 4.2 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

UNITS: INCHES UNLESS OTHERWISE NOTED.

BREAK SHARP EDGES: 0.005 TO 0.010 MAX.

- IDENTIFICATION. SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS
- 7) WEIGHT: D212-664-141 = 33.6 lbs (PER IIN-D212-664)

D212-664-141B = 33.6 lbs (PER IIN-D212-664)

- PART IS SYMMETRIC ABOUT CENTERLINE.
- RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2893-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE. SUPPORT.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY RETURN'10 ENGINEERING UNCONTROLLED COPY SUBJECT TO AMENDMENT WITHOUT NOTICE WORK ORDER

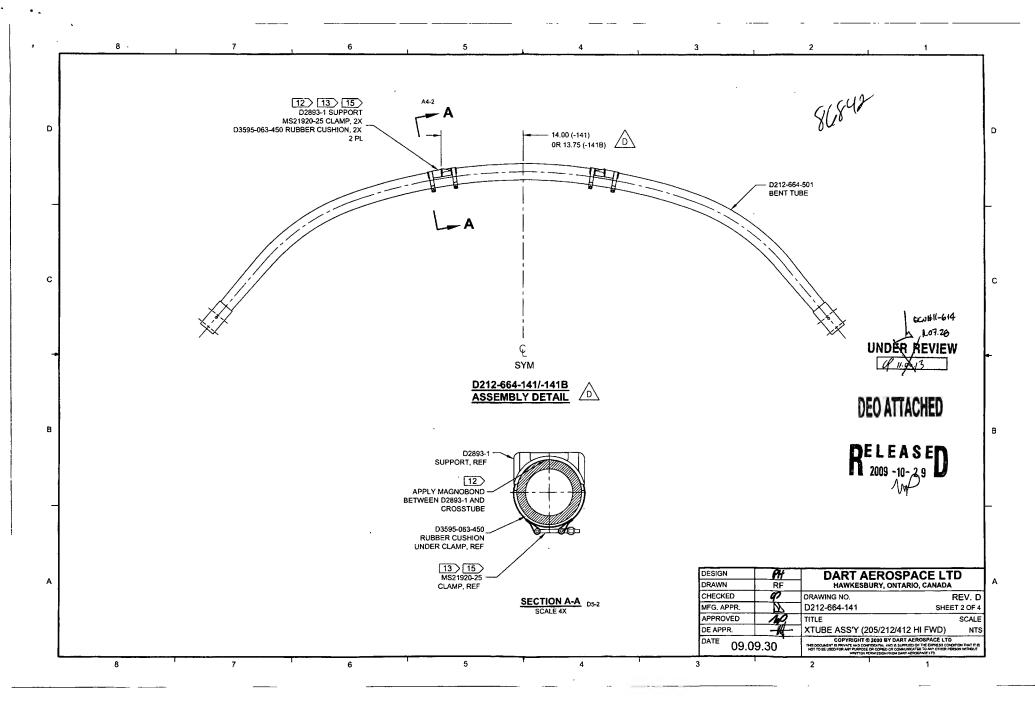
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RELEASED 2009 -10 - 9

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С			SION STRIP; ADD MAGNOBOND ÆRSE CLAMPS	PH	07.03.08
В.	ADD H	OLÉS FOR CO JBES	PH	05.02.04	
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MFG. AF	PR.	100	D212-664-141	S	HEET 1 OF 4
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DE APP	R.		XTUBE ASSY (205/212/412	HI FW	D) NTS
DATE	09.0	9.30	COPYRIGHT © 2000 BY DART AT THIS GOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLET NOT TO BE USED FOR ANY PURPOSE OR COMED OR COMMUNIC	ON THE EURE	SS CONDITION THAT IT IS

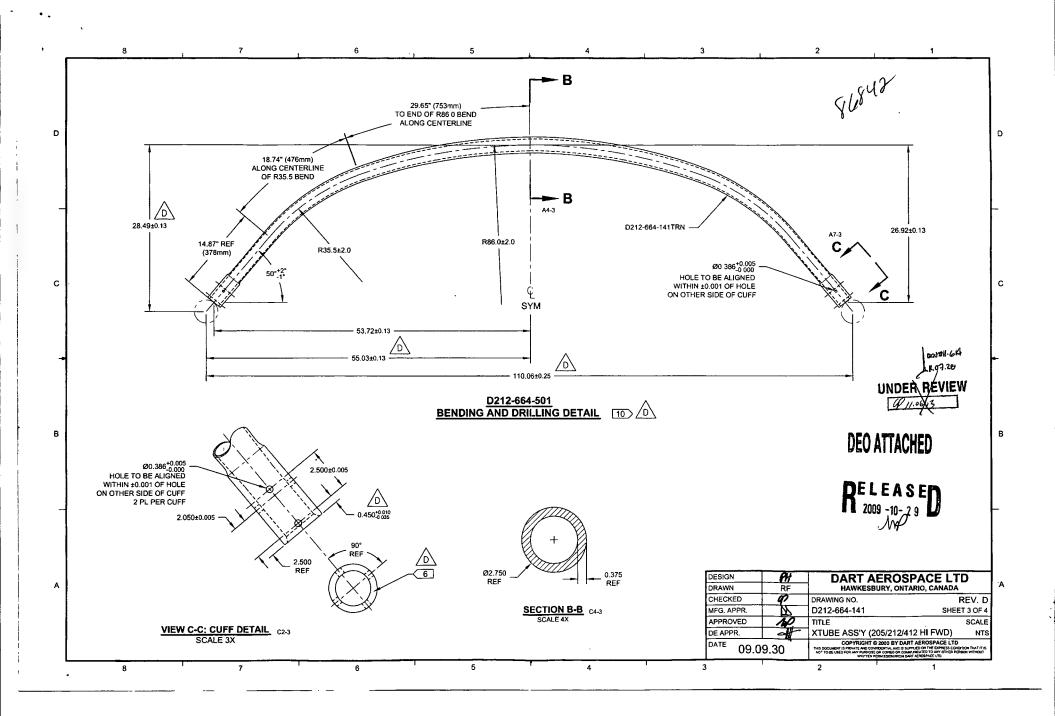
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DATE		Description of NC	Corrective Action Sec			Verific	ation	Approval	Approval
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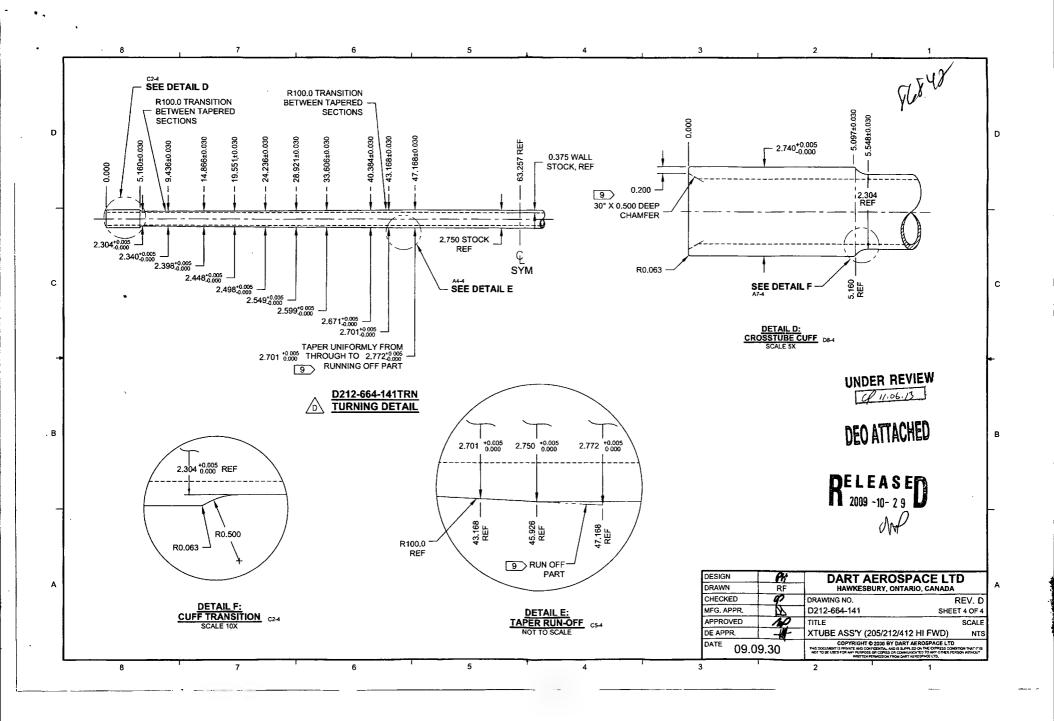
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DRAWING NO.	TITLE	REV. D DA	ART AEROSPACE LTD	D.E.O. NO.	SHEET NO.	SCALE
D212-664-141	XTUBE ASSY (205/212/412 H	IFWD) EN	NGINEERING ORDER	D212-664-141-D-1	SHEET 1 OF 2	NTS
DRAWN	CHECKED	P MFC	G. APPR. &	APPROVED MP,	DE APPR.	
DATE 11.04	.07 DATE), (1), () DAT	TE 11.04.12	DATE 11/04/12	DATE 11.04.17	_

PURPOSE:

ADD AN INSPECTION WINDOW TO UNDERSIDE OF CROSSTUBE.

CHANGE:

NOTES 2 OF SHEET 1 IS AMENDED AS FOLLOWS:

IS:

2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2

MASK UNDERSIDE OF CROSSTUBE AS SHOWN (HATCHED AREA) AND

PAINT OUTSIDE PER DART QSI 005 4.2 REMOVE MASKING AND APPLY CLEAR COAT

WAS:

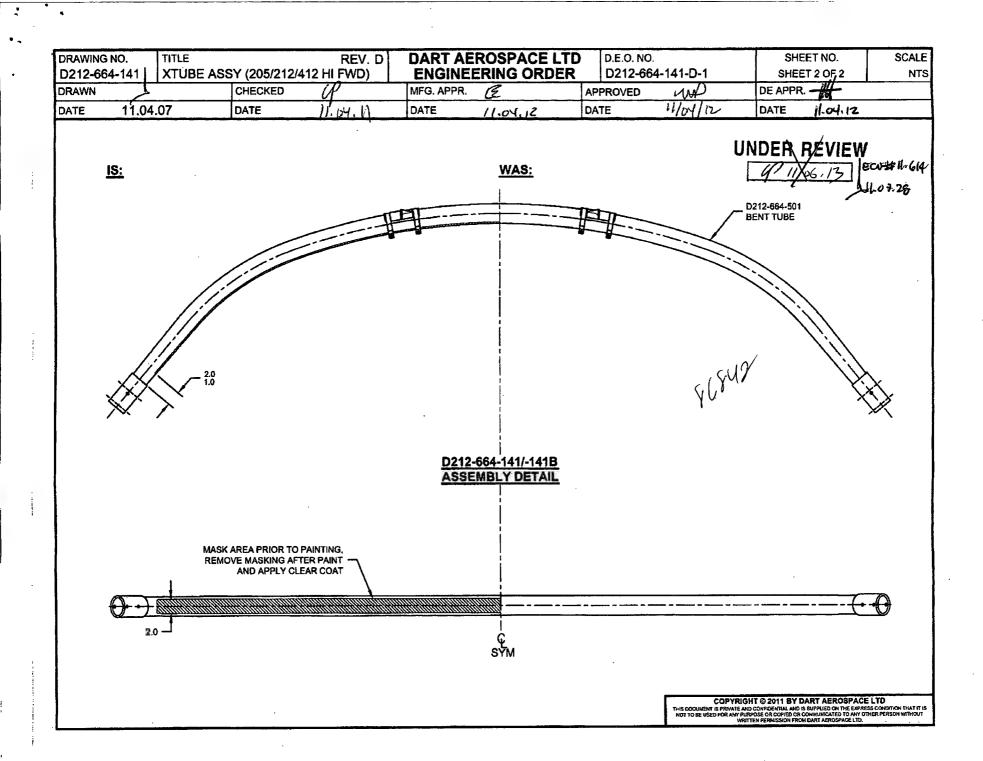
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2

PAINT OUTSIDE PER DART QSI 005 4.2



W/O:			WO	RK ORDER CHANG	ES			· ·	
DATE	STEP	PRO	OCEDURE CHAN	IGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No		PAR #:	Fault Categ	jory:	_ NCR: Yes	s No DQ	A:	Date: _	
	Re	esolution:	Disposition	: <u>`</u>	_ QA: N/C	Closed:		Date: _	
NCR:			WORK ORDE	R NON-CONFORM	ANCE (NC	R)			
DATE	STEP	Description of NC		tion B		cation		Approval	
	O,L,	Section A	Initial Chief Eng	Action Description Chief Eng	Sigr Dat		tion C	Chief Eng	QC Inspector



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	WORK ORDER CHANGES							
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			Corrective Action	Section B			

NCR:		***			_ (11011)	•				
DATE	T	Description of NC		Corrective Action Section B	Verification	Ammuousi	A			
	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Approval Chief Eng	Approval QC inspector		
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DRAWING NO.	TITLE REV. D	DART AEROSPACE LTD	D.E.O. NO.	SHEET NO.	SCALE
D212-664-141	CROSSTUBE ASS'Y (205 HI FWD)	ENGINEERING ORDER	D212-664-141-D-2	SHEET 1 OF 1	NTS
DRAWN //	CHECKED A>>	MFG. APPR.	PPROVED //	DE APPR.	
DATE 11.07	15 DATE 11.07.20	DATE 11.07.21 D	ATE 11/07/21	DATE 11.07.2	

PURPOSE:

REPLACE MAGNOBOND WITH PROSEAL.

CHANGE:

IS:

item	Qty -141	Qty -141B	Part Number	Description
7	A/R	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

WAS:

7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023
1				ADHESIVE (TEXTRON/BELL SPEC. 299-947-100,
				TYPE II, CLASS 2 ADHESIVE)

NOTE 12 & 15, SHEET 1 IS AMENDED AS FOLLOWS:

IS

- 12) TO INSTALL D2893-1 SUPPORT: ABRADE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

WAS:

- 12) INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

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W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	App. ora.		
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Part No:		PAR #:	Fault Category:		NCR: Yes No	DQA:	Date:	
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		Description of NC	,	Corrective Action Section B.			Approval	Approval	
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TEST DETAILS			
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FAMILY BRAND	MENAFLUX	BLACK LIGHT S/N /CYS	OUTPUT > 1000 µ W/cm ² AMBIENT < 2 fc
PENETRANT PENETRANT REMOVE	ER. (42-6) MINIMUM DWELL TIME 4518 ER. (42-6) MINIMUM DRY TIME >10	, , ,	HLIGHT TROUBLELIGHT OUTPUT>100 fc SURFACE
PENETRANT REMOVED PEVELOPER	ER (1974) MINIMUM DRY TIME >10		198866 CAL DUE DATE LICE
CEVELOPER TYPE	<u> </u>	DRY PROPERTY OF THE PROPERTY O	JOID.
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corresponditions or warranti	ents and expressions of opinion reflect the opinions or observations of Act ies. Acuren Group Inc. is not assuming any responsibilities of the owner/c provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liabi	operator and the owner/operator retains complete respo	misibility for the engineering, manigacture, repair and use accisions as a residence
Standard of Care			ne ammun paid on such services. 18 such services in the same or similar locality. No other warranty, expressed or
implied, is made or intende		communices by others performing	
SIGNATURES			
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Work Order ID 86842

Niv-06-12 3:10:33 PM

Item ID:

D212-664-101

Revision ID:

Crosstube Fwd Item Name:

Required Date: 8/10/12

Start Date:

7/06/12

Start Qty: 1.00

Operation

Req'd Qty: 1.00

Accept

86842

N900040100

Setup Start

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Cust Item ID:

Customer:

Reference:

Approvals:

Sequence ID/

Process Plan:

QC:

Date: 2-27 9 Tooling:

Run Hours

Date:

Date:

Run Start

Stop

SPC (Y/N): Date: Reject Reject Insp. Tool # Plan Accept Tool ID Set Up/ Number Stamp Qty **Qty** Code

Description Work Center ID **Revision Nbr** Draw Nbr Rev D (DEO) D212-664-141 100

100 DC

DOCUMENT CONTROL

Memo

0.00

0.00

Document Control

Photocopy bluefile and create labels as per PPP D212-664-101 CHG005

110 *110*

Packaging

Pick Kit

Packaging

0.00

Memo

0.00

Packaging

120

CNC Bend 2

CNC Alpha 160 Bender

BENDING MACHINE - CROSSTUBES

0.00

0.00

Bend tube as per Dwg D212-664-141 using CNC bender program 212-fw and

Folio D212-664-101